ABSTRACTS

Policy Research Working Paper Series

Numbers 2754–2802

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The World Bank
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Policy Research Working Paper Series

Abstracts

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2754. Revealed Preference and Self-Insurance: Can We Learn from the Self-Employed in Chile?

Abigail Barr and Truman Packard
(January 2002)

In Chile the appropriate focus for policymakers interested in the welfare-enhancing effects of participation in the pension system are the self-employed, who are free to reveal their preferences. Among the self-employed, the more patient and less risk averse contribute to the pension system.

Financial sector development is a critical area of effective social protection policy. A well-regulated financial sector can complement government efforts to keep households from falling into poverty—by supplying the instruments needed to pool risks or to self-insure against losses because of the death or disability of a household member, unexpected loss of employment, or inability to work in old age. But many of the policy recommendations that can be drawn from the social risk management framework rest on the strong assumption that risk and time preferences are uniform across individuals or households.

Policies meant to encourage participation in public pension systems and to reduce evasion where such systems are mandatory (by more closely aligning benefits with payroll contributions or introducing individual retirement accounts) implicitly attempt to emulate the savings behavior of individuals and households faced with fully functioning capital markets and perfect information. If no allowance is made for variation in preferences, however, the welfare effects of policy reforms will vary across the target population. Mandated social security, even if actuarially fair for most, is likely to impose welfare losses on those less inclined to save and insure. That said, a clearer picture of individual and household preferences, and how they vary across the population, can help governments design social security systems that complement private savings and insurance instruments.

Barr and Packard present the results of a field experiment designed to produce an empirical measure of the risk aversion and time preferences of selected groups in Chile, which in 1981 pioneered social security reform with a transition to individual retirement accounts. The experiment was designed primarily to establish whether the time and risk preferences of the self-employed differ significantly from those of wage and salaried workers.

Barr and Packard find no significant differences in mean risk and time preferences between the self-employed and employees or between contributing and noncontributing employees. But they find significant differences in these preferences between the contributing and noncontributing self-employed. Among the self-employed, those who are more patient choose to contribute to the pension system. However, the contributing self-employed are significantly more tolerant of risk than the noncontributing self-employed, a finding that conflicts with the assumption that the formal pension system is the only source of insurance against poverty in old age.

The Chilean pension system may be viewed with some trepidation by its pool of potential clients. Since risk aversion declines with education, the participation of the economically active who are free to choose could be enhanced by a campaign carefully designed to raise awareness, allay fears, and inform people of the benefits of saving for retirement in the formal pension system.

This paper—a product of the Social Protection Unit, Latin America and the Caribbean Region—is part of a forthcoming regional study on social security reform. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Truman Packard, room I7-151, telephone 202-458-9078, fax 202-614-0832, email address tpackard@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at abigail.barr@economics.ox.ac.uk or tpackard@worldbank.org. (27 pages)

2755. A Framework for Regulating Microfinance Institutions: The Experience in Ghana and the Philippines

Joselito Gallardo
(January 2001)

How does a country's legal and regulatory framework affect the sustainability of microfinance? Does a tiered approach to regulation help to integrate microfinance into the formal financial system? And are there lessons to be learned from the experience of Ghana and the Philippines with a tiered approach?

An earlier Policy Research Working Paper (Hennie van Greuning, Joselito Gallardo, and Bikki Randhawa, "A Framework for Regulating Microfinance Institutions," WPS 2061, February 1999) presented a regulatory framework that identifies thresholds in financial intermediation activities that trigger a requirement for a microfinance institution to satisfy external or mandatory guidelines—a tiered approach to regulation and prudential supervision. The model focuses on risk-taking activities of microfinance institutions that must be managed and prudentially regulated.

Gallardo reports on the results of the field testing and assessment of the tiered approach, focusing on the experience of Ghana and the Philippines. The two countries both have a wide range of informal, semiformal, and formal institutions providing financial services to the poor, but differ in how they regulate financial intermediation activities by microfinance providers.

In his assessment and a comparative analysis, Gallardo focuses on key issues in the regulatory and supervisory environment for microfinance—and in the legal system and judicial processes—being addressed by government authorities and microfinance stakeholders in both countries. He gives particular attention to the thresholds at which intermediation activities become subject to prudential regulation and regulatory standards for capitalization and capital adequacy, asset quality and provisioning for nonperforming loans, and liquidity management.

Gallardo seeks to identify the key elements and characteristics of the microfinance regulatory experience of Ghana and the Philippines and to draw the lessons that may be useful for other countries interested in establishing a regulatory environment conducive to the development of sustainable microfinance institutions.

The experience of Ghana and the Philippines shows that a transparent, inclusive regulatory framework is indispensable for enabling microfinance institutions to maintain market specialization and to pursue institutional development that leads to sustainability. Clear pathways for institutional transformation facilitate the integration of microfinance institutions into the formal financial system.

This paper—a product of the Financial Sector Development Department—is part of a larger effort in the department to explore ways to provide more financial services to the poor. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Tomoko Ishibe, room MC9-747, telephone 202-473-8968, fax 202-522-3198, email address tishibe @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at jgallardo@worldbank.org. (36 pages)

2756. Incomplete Enforcement of Pollution Regulation: Bargaining Power of Chinese Factories

Hua Wang, Nlandu Mamingi,
Benoît Laplante, and Susmita Dasgupta
(January 2002)

In dealing with local environmental authorities, Chinese firms facing adverse financial situations have more bargaining power than other firms, while those generating more complaints from the public about their emissions have less.

Only a small number of studies have empirically examined the determinants of the monitoring and enforcement performed by environmental regulators, and most of these have focused on industrial countries. In contrast, Wang, Mamingi, Laplante, and Dasgupta empirically examine the determinants of enforcement in China. More precisely, they analyze the determinants of firms' relative bargaining power with local environmental authorities with respect to the enforcement of pollution charges.

The authors show that private sector firms appear to have less bargaining power than state-owned enterprises. Contrary to earlier findings, they also show that firms facing adverse financial situations have more bargaining power than other firms and are more likely to pay smaller pollution charges than they should be paying.

Finally, the authors show that the greater the social impact of a firm's emissions (as measured by complaints), the less bargaining power it has with local environmental authorities.

This paper—a product of Infrastructure and Environment, Development Research Group—is part of a larger effort in the group to study environmental regulation in developing countries. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hua Wang, room MC2-626, telephone 202-473-3255, fax 202-522-3230, email address hwang1 @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The other authors may be contacted at blaplante @worldbank.org or sdasgupta @worldbank.org. (21 pages)

2757. Strengthening the Global Trade Architecture for Development

Bernard Hoekman
(January 2002)

The World Trade Organization (WTO) has a role to play in strengthening the global trading system for development, primarily by lowering barriers to trade in goods and services and ensuring that trade rules are useful to developing countries. But greater international cooperation must complement WTO-based negotiations—in particular, concerted action outside the WTO to enhance the trade capacity of poor countries ("aid for trade").

Despite recurring rounds of trade liberalization under the auspices of the World Trade Organization (and its predecessor, the General Agreement on Tariffs and Trade, or GATT), complemented by unilateral reforms, many developing countries have not been able to integrate into the world economy. Hoekman argues that from the perspective of the poorest countries, a multipronged strategy is required to strengthen the global trading system. Moreover, much of the agenda must be addressed outside the WTO.

The most important contribution the WTO can make to development is to improve market access conditions—for goods and services—and ensure that trade rules are useful to developing countries. Enhancing trade capacity requires concerted action outside the WTO ("aid for trade") as well as unilateral actions by both industrial and developing countries to reduce antitrade biases.

This paper—a product of Trade, Development Research Group—is part of a larger effort in the group to investigate how the WTO can be used more effectively by developing countries to integrate into the world economy. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Flewitt, room MC3-333, telephone 202-473-2724, fax 202-522-1159, email address pflewitt @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at bhoekman @worldbank.org. (33 pages)

2758. Inequality, the Price of Nontradables, and the Real Exchange Rate: Theory and Cross-Country Evidence

Hong-Ghi Min
(January 2002)

Even though real exchange rate has an important impact on sustainable export and economic growth for small open economies, its impact on income distribution and transmission mechanism was never investigated. The paper shows that improved income distribution, through its impact on the price of nontradables, is associated with real exchange rate devaluation.

Min provides theoretical and empirical evidence of a negative association between income inequality and real exchange rates. First, he builds a theoretical model showing the transmission mechanism from inequality to real exchange rates. Second, using cross-country data, he demonstrates that the theoretical argument has empirical support. The association is large, significant, and robust to alternative specifications of the reduced form model and estimation methodologies.

These findings provide empirical support for Poverty Reduction Strategy Papers, government strategies agreed on with the World Bank that hinge on four major objectives: accelerating equity-based growth, guaranteeing access to basic social services for the poor, expanding opportunities for employment and income-generating activities for the poor, and promoting good governance. The author's analysis indicates that "equity-based growth" and "export-driven growth" are compatible policy goals. But the negative relationship between inequality and real exchange rates does not imply that policies aimed at dramatic redistribution will automatically lead to real depreciation of the domestic currency, improve the external balance, and accelerate economic growth.

This paper—a product of the Poverty Reduction Group, Poverty Reduction and Economic Management Network—is part of a larger effort in the network to provide theoretical and empirical evidences for the Poverty Reduction Strategy Papers. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Esteban Hernandez, room MC4-828, telephone 202-473-3721, fax 202-522-7496, email address ehernandez1@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at hmin @worldbank.org. (32 pages)

2759. Product Quality, Productive Efficiency, and International Technology Diffusion: Evidence from Plant-Level Panel Data

Aart Kraay, Isidro Soloaga, and James Tybout (January 2002)

In Colombia, Mexico, and Morocco, firms' past exposure to foreign knowledge through exports, imported inputs, and foreign direct investment does not help to predict current product quality or productive efficiency.

What mechanisms most frequently transmit foreign technologies to developing country firms? Do these foreign technologies affect both productive efficiency and product quality in the recipient firms? Under what circumstances do firms pursue activities that give them access to foreign knowledge?

To address these questions, Kraay, Soloaga, and Tybout develop a new methodology and apply the framework to plant-level panel data from Colombia, Mexico, and Morocco. Their results point to several basic messages.

First, by imposing enough structure on the production function and the demand system, it is possible to measure product quality and marginal costs at the plant level and to relate the evolution of these variables to firms' activity histories. Doing so, the authors find strong firm-level persistence in both quality and marginal costs. But in most industry or country panels that they study, past international activities help little in predicting current performance once past realizations on quality and marginal cost are controlled for. That is, activities do not typically Granger-cause performance. Interestingly, in the minority of cases where significant associations emerge, international activities appear to move costs and product quality in the same direction. So the net effect on profits in these cases is not immediately apparent.

Second, several basic patterns emerge with respect to the determinants of international activities. Most fundamentally, activities are highly persistent, even after unobserved heterogeneity is controlled for. That suggests that firms incur sunk threshold costs when they initiate or cease activities, so temporary policy or macroeconomic shocks may have long-run effects on the patterns of activities observed in a particular country or industry.

Also, activities tend to go together, so that studies that relate firms' performance to one international activity and ignore the others may generate misleading conclusions. But the bundling of activities seems to mainly reflect unobserved plant characteristics, such as managerial philosophy, contacts, product niche, and location. Once these are controlled for, there is little evidence that engaging in one international activity increases the probability that a firm will engage in others in the future.

This paper—a joint product of the Macroeconomics and Growth Team and the Trade Team, Development Research Group—is part of a larger effort in the group to study patterns of international technology diffusion. The study was funded by the Bank's Research Support Budget under the research project "Micro Foundations of International Technology Diffusion." Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rina Bonfield, room MC3-354, telephone 202-473-1248, fax 202-522-3518, email address abonfield @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at akraay@worldbank.org, isoloaga@hotmail.com, or jxt32@psu.edu. (46 pages)

2760. Bank Lending to Small Businesses in Latin America: Does Bank Origin Matter?

George R. G. Clarke, Robert Cull, Maria Soledad Martinez Peria, and Susana M. Sánchez (January 2002)

Do foreign banks lend less to small and medium enterprises than domestic banks in developing countries? Analysis of data from four countries in Latin America suggests that although small foreign banks lend less than small domestic banks, the difference for large banks is considerably less.

In recent years foreign bank participation has increased tremendously in Latin America. Some observers argue that foreign bank entry will benefit Latin American banking systems by reducing the volatility of loans and deposits and increasing efficiency. Others are concerned that foreign banks might choose to extend credit only to certain customers, leaving some sectors—such as small businesses—unserved.

Clarke and his coauthors examine this issue. Using bank-level data for Argentina, Chile, Colombia, and Peru during the mid-1990s, they empirically investigate whether bank origin affects the share and growth rate of bank lending to small businesses. They find that although foreign banks generally lent less to small businesses (as share of total lending) than private domestic banks, the difference is due primarily to the behavior of small foreign banks. The difference was considerably smaller for large and medium-sized banks. And in Chile and Colombia, large foreign banks might actually lend slightly more (as share of total lending) than large domestic banks.

This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to understand the impact of entry by foreign banks on domestic banking systems in Latin America. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room MC3-422, telephone 202-473-7644, fax 202-522-1155, email address psintimaboagye @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at gclarke@worldbank.

org, rcull@worldbank.org, mmartinezperia @worldbank.org, or ssanchez@worldbank. org. (36 pages)

2761. Precautionary Saving from Different Sources of Income: Evidence from Rural Pakistan

Richard H. Adams Jr.
(January 2002)

Much of past literature has assumed that households in developing countries save at the same marginal rate from all sources of income. But in rural Pakistan households save at very different marginal rates from different sources of income. The marginal propensity to save from those sources of income that are more variable and uncertain—like external remittances—is much higher than from those sources of income that are more predictable—like rental income.

Few studies have tried to measure how households in a developing country save from each of the different income sources at their disposal. To help fill that gap, Adams uses five-year panel data to examine how households in rural Pakistan save from each of seven separate sources of income.

Adams finds that households save from different sources of income at significantly different marginal rates. For example, the marginal propensity to save from external remittances (0.711) is much higher than that for rental income (0.085). As the precautionary model of saving suggests, the reasons for this relate to uncertainty: income that is more variable tends to be saved at a higher marginal rate. Faced with incomplete capital and credit markets, households in rural Pakistan save "for a rainy day" by putting away mainly those sources of income that are more variable and uncertain.

This paper—a product of the Poverty Reduction Group, Poverty Reduction and Economic Management Network—is part of a larger effort in the network to understand how households use savings for investment and development in developing countries. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nelly Obias, room MC4-834, telephone 202-473-1986, fax 202-522-3283, email address nobias@worldbank. org. Policy Research Working Papers are also posted on the Web at http://econ. worldbank.org. The author may be contacted at radams@worldbank.org. (31 pages)

2762. The (Positive) Effect of Macroeconomic Crises on the Schooling and Employment Decisions of Children in a Middle-Income Country

Norbert R. Schady
(January 2002)

Under some conditions, macroeconomic crises can have a positive effect on the accumulation of human capital because they reduce the opportunity cost of schooling. This has profound implications for the design of appropriate social protection policies.

The impact of macroeconomic crises on parents' investments in the human capital of their children is a widely contested issue. Schady analyzes the effects of the profound macroeconomic crisis in Peru in 1988–92 on the schooling and employment decisions made by urban school-age children. He arrives at two basic findings:

- First, the crisis had no effect on the attendance rates of school-age children. But the share of children who were both employed and in school fell significantly during the crisis.
- Second, mean educational attainment was significantly higher for children who were exposed to the crisis than for those who were not.

Schady argues that these findings may be related: children who are not employed have more time available and may therefore put more effort into school. He concludes with a discussion of the implications of his findings for the design of appropriate social protection policies.

This paper—a product of the Poverty Sector Unit, Latin America and the Caribbean Region—is part of a larger effort in the region to understand the effects of macroeconomic crises on households, and to design appropriate policies to mitigate their costs. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Tania Gomez, room I8-102, telephone 202-473-2127, fax 202-522-0054, email address tgomez@worldbank. org. Policy Research Working Papers are also posted on the Web at http:// econ.worldbank.org. The author may be contacted at nschady@worldbank.org. (33 pages)

2763. Capacity Building in Economics: Education and Research in Transition Economies

Boris Pleskovic, Anders Åslund, William Bader, and Robert Campbell
(January 2002)

The development of the institutional capacity to create and evaluate economic policies remains a critical need—and constraint—in most transition economies if they are to complete the successful passage to fully functioning market economies. To take an active role in the transition process, economic policymakers, business leaders, government officials, and others need a thorough grounding in market-based economics. This requires strengthening economics education and providing support for qualified economists to teach economics at all levels and to carry out high-quality research and policy analysis. Although the education systems in a handful of countries have already risen to the challenge, in many other transition countries, the structure of educational and research institutes remains grounded in the Communist model. This paper presents findings from a comprehensive study assessing the state of economics education and research in 24 countries in East-Central Europe and the former Soviet Union. While 20 countries were initially included because preliminary assessments showed that they lacked the capability to offer high-quality economics education, four additional countries—the Czech Republic, Hungary, Russia, and Ukraine—were included to highlight five centers of excellence that they already host. Based on the experience of these successful centers, the study's findings, and information gathered from a series of donor meetings in Berlin, New York, and Washington, D.C., this paper presents an approach to building new indigenous capacity for teaching and research on market-based economics in regions where the need is particularly critical—the Caucasus, Central Asia, and Southeast Europe.

This paper—a product of the Research Advisory Staff—is part of a larger effort in the Bank to strengthen economics education and research capacity in transition economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Boris Pleskovic, room MC4-385, telephone 202-473-1062, fax 202-522-0304, email address bpleskovic @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The other authors may be contacted at aaslund @ceip.org, baderw@ndu.edu, or campbelr @indiana.edu. (51 pages)

2764. What Determines the Quality of Institutions?

Roumeen Islam and Claudio E. Montenegro
(January 2002)

Trade openness has a significant impact on institutional quality, while inequality and ethnic diversity are not robustly correlated with institutional quality.

In trying to explain institutional quality, different authors have come to conflicting conclusions. In tackling the problem themselves, Islam and Montenegro show three things.

First, openness is positively and pretty robustly associated with institutional quality. To minimize selection bias, the authors use data sets with the greatest cross-country coverage, though they also test the significance of the variables for smaller sample sizes. The results confirm that both natural and policy measures of openness are important. Concentration of trade in natural resource exports continues to be associated with poor institutional quality after openness in trade is accounted for.

Second, "social" variables, such as income inequality or ethnic diversity, are not associated with institutional quality. The significance of the inequality variable disappears when continent dummy variables are included for Africa and Latin America.

Third, features of specific institutions, such as freedom of the press and checks and balances in the political system, are positively associated with overall perceptions of institutional quality. These findings hold strongly across different data sets and samples even after the authors control for the variables commonly used in the literature.

This paper—a product of the Office of the Senior Vice President, Development Economics—is one in a series of background papers prepared for World Development Report 2002: Institutions for Markets. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Roumeen Islam, mail stop MC3-307, telephone 202-473-2628, fax 202-522-0932, email address rislam @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. Claudio Montenegro may be contacted at cmontenegro@worldbank.org. (28 pages)

2765. Inequality Aversion, Health Inequalities, and Health Achievement

Adam Wagstaff
(January 2002)

This paper shows how value judgments can be explicitly recognized in measuring health inequalities between the poor and the better-off, and how such inequalities can be included in assessments of countries' health indicators.

Wagstaff addresses two issues. First, how can health inequalities be measured so as to take into account policymakers' attitudes toward inequality? The Gini coefficient and the related concentration index embody one particular set of value judgments. Generalizing these indexes allows alternative sets of value judgments to be reflected.

And second, how can information on health inequality be combined with information on the mean of the relevant distribution to obtain an overall measure of health "achievement?" Applying the approach developed by Wagstaff shows how much worse some countries perform when the focus switches from average health to an achievement index that also reflects the health gap between the poor and the better-off.

This paper—a joint product of Public Services, Development Research Group, and the Health, Nutrition, and Population Team, Human Development Network—is part of a larger effort in the Bank to investigate the links between poverty and health. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at awagstaff@worldbank.org. (21 pages)

2766. Autonomy, Participation, and Learning in Argentine Schools: Findings and Their Implications for Decentralization

Gunnar S. Eskeland and Deon Filmer
(January 2002)

School autonomy and parental participation both influence learning. Autonomy raises the rent available at the school and participation determines whether student learning will benefit from that rent. It is therefore important who is empowered through decentralization.

According to a theoretical model, school autonomy and parental participation in schools can increase student learning through separate channels. Greater school autonomy increases the rent that can be distributed among stakeholders in the school, while institutions for parental participation (such as a school board) empower parents to command a larger share of this surplus—for example, through student learning.

Using a rich cross-sectional data set from Argentine schools (sixth and seventh grades), Eskeland and Filmer find that autonomy and participation raise student test scores for a given level of inputs in a multiplicative way, consistent with the model. Autonomy has a direct effect on learning (but not for very low levels of participation), while participation affects learning only through the mediation of the effect of autonomy. The results are robust to a variety of robustness checks and for subsamples of children from poor households, children of uneducated mothers, schools with low mean family wealth, and public schools.

It is possible that autonomy and participation are endogenously determined and that this biases the results—the data available do not allow this to be ruled out with certainty. Plausible predictors of autonomy and participation are also plausible predictors of test scores, and they fail tests for the overidentifying restrictions. Heuristically argued, however, the potential for correlation with unobserved variables may be limited: the data set is rich in observed variables, and autonomy and participation show very low correlation with observed variables.

Subject to these caveats, the results may be relevant to decentralization in two ways. First, as decentralization moves responsibility from the central toward the provincial or local government, the results should be directly relevant if the decentralization increases autonomy and participation in schools. Second, if the results are interpreted as representing a more general effect of moving decisionmaking toward users and the local community, the results are relevant even if little happens to autonomy and participation in schools.

More important, perhaps, the authors illustrate empirically the importance of knowing who is empowered when higher levels of government loosen control.

This paper—a product of Public Services, Development Research Group—is part of a larger effort in the group to improve understanding of the determinants of the quality of educational services. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at geskeland@worldbank.org or dfilmer @worldbank.org. (31 pages)

2767. Child Labor: The Role of Income Variability and Access to Credit in a Cross-Section of Countries

Rajeev H. Dehejia and Roberta Gatti
(January 2002)

In the absence of developed financial markets, households appear to resort to child labor to cope with income variability. This evidence suggests that policies aimed at increasing households' access to credit could be effective in reducing child labor.

Even though access to credit is central to child labor theoretically, little work has been done to assess its importance empirically. Dehejia and Gatti examine the link between access to credit and child labor at a cross-country level.

The authors measure child labor as a country aggregate, and proxy credit constraints by the level of financial market development. These two variables display a strong negative (unconditional) relationship. The authors show that even after they control for a wide range of variables—including GDP per capita, urbanization, initial child labor, schooling, fertility, legal institutions, inequality, and openness—this relationship remains strong and statistically significant.

Moreover, they find that, in the absence of developed financial markets, households resort to child labor to cope with income variability. This evidence suggests that policies aimed at increasing households' access to credit could be effective in reducing child labor.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to study the determinants of child labor. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Anna Bonfield, room MC3-354, telephone 202-473-1248, fax 202-522-3518, email address abonfield@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. Roberta Gatti may be contacted at rgatti@worldbank.org. (24 pages)

2768. Trade, Foreign Exchange, and Energy Policies in the Islamic Republic of Iran: Reform Agenda, Economic Implications, and Impact on the Poor

Jesper Jensen and David Tarr
(January 2002)

Reflecting the large initial distortions, trade, exchange rate, and energy reforms could generate large welfare gains for the Islamic Republic of Iran. If combined with direct income payments to all households (not just the poor), the poor would benefit enormously. The authors show that well intentioned policies of commodity subsidies for the poor can have perverse effects.

The Islamic Republic of Iran has committed itself to substantial trade and market reform in its Third Five-Year Development Plan. It started out with nontariff barriers on all products, a dual exchange rate regime with the market rate more than four times the official rate, and domestic energy subsidies equal to about 90 percent of the cost of energy products. Many of these policies were justified as helping the poor.

To analyze the effect of the reforms, separately and together, Jensen and Tarr develop a multisector computable general equilibrium model with 10 rural and 10 urban households. They find that the combined reforms could generate welfare gains equal to about 50 percent of aggregate consumer income. These gains reflect the large initial distortions—for example, energy subsidies equal to about 18 percent of GDP, and retail energy prices equal to about 10 percent of world market prices. Separately, trade reform would lead to gains of about 5 percent of income, exchange rate reform to gains of 7 percent of income, and energy pricing reform to gains of 33 percent of income.

The authors' results show that well-intentioned commodity subsidy policies for the poor can have perverse effects. Direct income payments to all households (not just the poor) would vastly increase the incomes of the poor compared with the status quo. Moreover, if the combined reforms were implemented, the poorest rural household would receive gains equal to about 290 percent of its income, and the poorest urban household gains equal to about 140 percent of its income.

This paper—a product of Trade, Development Research Group—is part of a larger effort in the group to assess the impact of trade policy reform on the poor. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Flewitt, room MC3-333, telephone 202-473-2724, fax 202-522-1159, email address pflewitt@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at jj@copenhageneconomics.com or dtarr@worldbank.org. (37 pages)

2769. Immunization in Developing Countries: Its Political and Organizational Determinants

Varun Gauri and Peyvand Khaleghian
(January 2002)

Gauri and Khaleghian use cross-national social, political, economic, and institutional data to explain why some countries have stronger immunization programs than others, as measured by diptheriatetanus-pertussis (DTP) and measles vaccine coverage rates and the adoption of the hepatitis B vaccine. After reviewing the existing literature on demand- and supply-side factors that affect immunization programs, the authors find that the elements that most affect immunization programs in low- and middle-income countries involve broad changes in the global policy environment and contact with international agencies. Democracies tend to have lower coverage rates than autocracies, perhaps because bureaucratic elites have an affinity for immunization programs and are granted more autonomy in autocracies, although this effect is not visible in low-income countries. The authors also find that the quality of a nation's institutions and its level of development are strongly related to immunization rate coverage and vaccine adoption, and that coverage rates are in general more a function of supply-side than demand effects. There is no evidence that epidemics or polio eradication campaigns affect immunization rates one way or another, or that average immunization rates increase following outbreaks of diphtheria, pertussis, or measles.

This paper—a product of Public Services, Development Research Group—is part of a larger effort in the group to study the political economy of basic service delivery. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, mail stop MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at vgauri@worldbank.org or pkhalegh@jhsph.edu. (42 pages)

2770. Downsizing and Productivity Gains in the Public and Private Sectors of Colombia

Martín Rama and Constance Newman
(January 2002)

Public sector restructuring, including labor downsizing, has been one of the main areas of policy activism in developing countries and transition economies. But little is known about its actual effects. Rama and Newman use panel data on Colombian enterprises spanning more than one decade to assess the impact on several productivity indicators. The results suggest that the productivity gains from downsizing are larger in state-owned enterprises than in private enterprises. While the increase in value added per worker is similar in both cases, state-owned enterprises experience an increase in total value added, and in value added per unit of capital, whereas both indicators decline in private enterprises. The difference, which could simply reflect the larger extent of initial inefficiency in state-owned enterprises, does not appear to depend on the degree of competition in product markets.

This paper—a product of Public Services, Development Research Group—is part of a larger effort in the group to understand employment and pay issues in the public sector. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, mail stop MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at mrama@worldbank.org or cnewman@ers.usda.gov. (32 pages)

2771. Exchange Rate Appreciations, Labor Market Rigidities, and Informality

Norbert M. Fiess, Marco Fugazza, and William Maloney
(February 2002)

Fiess, Fugazza, and Maloney work at the interface of the literature exploring the reasons for the existence of the informal labor market and the literature explaining the real exchange rate appreciations occurring in many Latin American countries during periods of reform. They first build a small-country, Australian-style model in which the informal sector is seen as an unregulated nontradables sector, augmented by heterogeneity in entrepreneurial ability and capital adjustment costs. They then examine the behavior of the model with and without formal sector rigidity. They show that the comovements of relative formal and informal sector income, formal and informal sector size, and the real exchange rate can offer insight into the level of distortion in the labor market and the source of exchange rate fluctuations.

The authors then explore time-series data from Brazil, Colombia, and Mexico using multivariate cointegration techniques to establish what "regime" each country was in during different periods. Mexico appeared to be relatively undistorted in 1987–92, and the appreciation during that period seems to have resulted largely from a boom in the nontradables sector rather than from wage inertia. In Brazil, despite a secular expansion of the informal sector in 1993–96, there is little evidence of dualism or of a rigidity-driven appreciation of the real during that period. Post–1995 Colombia corresponds to a classic segmented labor market and an appreciation driven in part by labor market rigidities. Graphical analysis suggests that neither the Argentine appreciation (1988–92) nor the celebrated Chilean appreciation (1975–82) were driven by inertial forces.

This paper—a product of the Office of the Chief Economist, Latin America and the Caribbean Region—is part of a larger effort in the region to investigate labor market functioning and economic adjustment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Ruth Izquierdo, room I8-012, telephone 202-458-4161, fax 202-522-7528, email address rizquierdo@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at nfiess@worldbank.org, marcofugazza@netscape.net, or wmaloney@worldbank.org. (40 pages)

2772. Governance Matters II: Updated Indicators for 2000–01

Daniel Kaufmann, Aart Kraay, and Pablo Zoido-Lobatón
(February 2002)

Updated governance indicators report estimates of six dimensions of governance for 175 countries in 2000–01. They can be compared with those constructed for 1997–98.

Kaufmann, Kraay, and Zoido-Lobatón construct aggregate governance indicators for six dimensions of governance, covering 175 countries in 2000–01. They apply the methodology developed in Kaufmann, Kraay, and Zoido-Lobatón ("Aggregating Governance Indicators," Policy Research Working Paper 2195, and "Governance Matters," Policy Research Working Paper 2196, October 1999) to newly available data to arrive at governance indicators comparable with those constructed for 1997–98. The data is presented in the appendix, and accessible through an interactive Web-interface at http://www.worldbank.org/wbi/governance/govdata2001.htm.

This paper—a joint product of the Development Research Group and the Governance, Regulation, and Finance Division, World Bank Institute—is part of a larger effort in the Bank to develop and analyze governance research indicators and trends worldwide. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Erin Farnand, room J3-280, telephone 202-473-9291, fax 202-334-8350, email address efarnand@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. For access to the data and related papers, visit http://www.worldbank.org/wbi/governance/pubs/govmatters2001.htm. The authors may be contacted at dkaufmann@worldbank.org or akraay@worldbank.org. (53 pages)

2773. Household Enterprises in Vietnam: Survival, Growth, and Living Standards

Wim P. M. Vijverberg and Jonathan Haughton
(February 2002)

Two-fifths of the household enterprises that operated in Vietnam in 1993 were still in business in 1998, after five years of rapid economic growth. Constrained by lack of education, credit, and effective demand in poor areas, and squeezed by the lure of wage labor in rich areas, household enterprises are most prominent when agriculture is declining in importance but before the formal sector becomes established.

In Vietnam almost a quarter of adults worked in nonfarm household enterprises in 1998. Based on household panel data from the Vietnam Living Standards Surveys of 1993 and 1998, Vijverberg and Haughton find some evidence that operating an enterprise leads to greater affluence.

The data show that nonfarm household enterprises are most likely to be operated by urban households, by those with moderately good education, and by the children of proprietors. The authors were able to construct a panel of nonfarm household enterprises; 39 percent of enterprises operating in 1993 were still in business in 1998. Those in the (more affluent) south of the country were less likely to survive, as were smaller and younger businesses.

A pattern emerges from the data. In poor areas the lack of education, credit, and effective demand limits the development of nonfarm household enterprises. In rich areas there is the attraction of wage labor. Nonfarm household enterprises are thus most important in the period of transition, when agriculture is declining in importance but before the formal sector becomes established. The authors expect these enterprises to continue to play a modest supporting role in fostering economic growth in Vietnam.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to study household welfare and poverty reduction in Vietnam. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room MC3-347, telephone 202-473-7471, fax 202-522-3518, email address kkhine@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. Jonathan Haughton may be contacted at jhaughto@beaconhill.org. (27 pages)

2774. Child Labor in Transition in Vietnam

Eric Edmonds and Carrie Turk
(February 2002)

Vietnam experienced a dramatic decline in child labor during the 1990s. Edmonds and Turk explore this decline in detail and document the heterogeneity across households in both levels of child labor and in the incidence of this decline in child labor. The authors find a strong correlation between living standards improvements and child labor so that much of the variation in declines in child labor can be explained by variation in living standards improvements. Ethnic minority children and the children of recent migrants appear to remain particularly vulnerable even by the late 1990s. Children of all ethnicities in the Central Highlands appear to have missed many of the improvements in the 1990s, while children in the rural Mekong and in Provincial Towns have experienced the largest declines in child labor. The results suggest embedding efforts against child labor within an overall antipoverty program. The authors find that the opening or closing of household enterprises seems to be associated with increases in child labor. So attention should be devoted to the activities of children in the government's current program to stimulate nonfarm enterprises.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to study household welfare and poverty reduction in Vietnam. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rina Bonfield, room MC3-354, telephone 202-473-1248, fax 202-522-3518, email address abonfield@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at eedmonds@dartmouth.edu or cturk@worldbank.org. (55 pages)

2775. Patterns of Health Care Utilization in Vietnam: Analysis of 1997–98 Vietnam Living Standards Survey Data

Pravin K. Trivedi
(February 2002)

Trivedi provides an econometric analysis of health care utilization in Vietnam based on individual and household level data from the 1997–98 Vietnam Living Standards Survey. The author focuses on the major features of health care utilization patterns, including the determinants of largely self-prescribed use of pharmaceutical drugs, and the use of government hospitals, commune health centers, and private health facilities. The role of income and health insurance is emphasized. Econometric models are estimated for use probability and frequency of contact for all major categories of care, and for individual and household medical expenditure. Econometric results reveal differential responses to income changes at different levels of income. Commune health centers and self-medication are normal goods at lower income levels but inferior goods at higher income levels. The author discusses the policy implications of these results.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to study household welfare and poverty reduction in Vietnam. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rina Bonfield, room MC3-354, telephone 202-473-1248, fax 202-522-3518, email address abonfield@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at trivedi @indiana.edu. (55 pages)

2776. Child Nutrition, Economic Growth, and the Provision of Health Care Services in Vietnam in the 1990s

Paul Glewwe, Stefanie Koch, and Bui Linh Nguyen
(February 2002)

Vietnam's rapid economic growth in the 1990s greatly increased the incomes of Vietnamese households, which led to a dramatic decline in poverty. Over the same period, child malnutrition rates in Vietnam, as measured by low height for age in children under 5, fell from 50 percent in 1992–93 to 34 percent in 1997–98. Disparities exist, however, between different regions, urban and rural areas, ethnicities, and income quintiles. This dramatic improvement in child nutrition during a time of high economic growth suggests that the nutritional improvements are due to higher household incomes. Glewwe, Koch and Nguyen investigate whether this causal hypothesis is true by estimating the impact of household income growth on children's nutritional status in Vietnam. Different estimation methods applied to the 1992–93 and 1997–98 Vietnam Living Standards Survey data find that growth in household expenditures accounts for only a small proportion of the improvements in children's nutritional status. The authors use data on local health facilities to investigate the role that they may have played in raising children's nutritional status in Vietnam.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to study household welfare and poverty reduction in Vietnam. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room MC3-347, telephone 202-473-7471, fax 202-522-3518, email address kkhine@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. Paul Glewwe may be contacted at pglewwe @dept.agecon.umn.edu. (50 pages)

2777. Teachers' Incentives and Professional Development in Schools in Mexico

Gladys López-Acevedo
(February 2002)

The quality of education is a determining factor in a nation's competitiveness. To compete globally, Mexico needs to raise its education standards. Several innovations to raise the quality of basic education at the federal and state levels have been developed: professional training of teachers, new "learning presence in schools," and improvement of working conditions and salaries of teachers. López-Acevedo examines teachers' incentives and their impact on students' learning achievement. She shows that early in their professional lives, teachers in basic public schools are better paid than in other comparable groups. She also finds that some incentives for teachers at the school level improve learning achievement. For instance, the enrollment of teachers in the *Carrera Magisterial* program has a positive effect on students' learning achievement. Furthermore, teachers' training is most effective when targeted toward increasing their practical experience and developing content-specific knowledge.

This paper—a product of the Poverty Reduction and Economic Management Sector Unit, Latin America and the Caribbean Region—is part of a larger effort in the region to reduce poverty and inequality through human capital investment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Michael Geller, room I4-046, telephone 202-458-5155, fax 202-522-2112, email address mgeller@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ. worldbank.org. The author may be contacted at gacevedo@worldbank.org. (48 pages)

2778. Technology and Firm Performance in Mexico

Gladys López-Acevedo
(February 2002)

López-Acevedo investigates the relationship between a firm's adoption of new manufacturing technology and its performance. A panel database that identifies technological adoption and tracks firms over time allows the use of different measures of firm performance—wages, productivity, net employment growth, job creation, and job destruction. Results show that technology is associated with high firm performance in all these metrics. The effect of new technology on performance is larger for firms located in the north and in Mexico City. This marginal value significantly increased after the 1994 crisis and the North American Free Trade Agreement. Furthermore, technology increased the wage of semiskilled workers compared with unskilled workers by about 11 percent over seven years.

This paper—a product of the Latin America and the Caribbean Region, Poverty Reduction and Economic Management Sector Unit—is part of a larger effort in the region to reduce poverty and inequality through human capital investment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Michael Geller, room I4-406, telephone 202-458-5155, fax 202-552-2112, email address mgeller@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ. worldbank.org. The author may be contacted at gacevedo@worldbank.org. (22 pages)

2779. Technology and Skill Demand in Mexico

Gladys López-Acevedo
(February 2002)

López-Acevedo investigates the effects of technology on the employment and wages of differently skilled Mexican manufacturing workers using firm panel data from 1992–99. She analyzes the relationship between technology and skill demand.

Findings support the skill-biased technical change hypothesis. She then examines the temporal relationship of technology adoption to firm productivity and worker wages. The author finds that skilled labor increases after technology adoption. And wages of both skilled and semi-skilled workers exhibit markedly increased growth rates compared with the growth rate of low-skilled workers. The results show that investment in human capital improves technology-driven productivity gains.

This paper—a product of the Latin America and the Caribbean Region, Poverty Reduction and Economic Management Sector Unit—is part of a larger effort in the region to reduce poverty and inequality through human capital investment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Michael Geller, room I4-046, telephone 202-458-5155, fax 202-522-2111, email address mgeller@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at gacevedo@worldbank.org. (36 pages)

2780. Determinants of Technology Adoption in Mexico

Gladys López-Acevedo
(February 2002)

López-Acevedo tries to identify the impact of firm-, region-, and industry-specific characteristics on technology adoption by Mexican firms. Cross-sectional and panel data from 1992–99 show that the firms most likely to adopt new technology are large, train workers, have highly skilled workers, are near the U.S. border, and are owned by foreign entities. Also, bigger firms, firms with a large share of highly skilled workers, and firms that train workers, use intensively more complex technologies in their production process.

This paper—a product of the Latin America and the Caribbean Region, Poverty Reduction and Economic Management Sector Unit—is part of a larger effort in the region to reduce poverty and inequality through human capital investment. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Michael Geller, room I4-046, telephone 202-458-5155, fax 202-522-2112, email address mgeller@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at gacevedo@worldbank.org. (40 pages)

2781. Maritime Transport Costs and Port Efficiency

Ximena Clark, David Dollar, and Alejandro Micco
(February 2002)

Transport costs have increased their relative importance as a barrier to trade. Distance, containerization, volume exported, and, most important, the level of seaport efficiency, are important determinants of transport costs. Port efficiency is not only associated with infrastructure, but also with the existence of organized crime and excessive regulation.

Recent literature has emphasized the importance of transport costs and infrastructure in explaining trade, access to markets, and increases in per capita income. For most Latin American countries transport costs are a greater barrier to U.S. markets than import tariffs.

Clark, Dollar, and Micco investigate the determinants of the costs of shipping to the United States using a large database (more than 300,000 observations a year) on shipments of products at the six-digit level of the Harmonized System of classification from different ports around the world. They find that distance and containerization matter.

They find that the efficiency of ports is also important. Improving the efficiency of a port from the 25th to the 75th percentile reduces shipping costs by 12 percent. (On average, having bad ports is equivalent to being 60 percent farther away from markets.) Inefficient ports also increase handling costs, which are part of shipping costs.

Finally, the authors try to explain variations in port efficiency. They find that the variations are linked to excessive regulation, the prevalence of organized crime, and the general condition of the country's infrastructure.

This paper—a product of Macroeconomics and Growth, Development Research Group—is part of a larger effort in the group to understand the link between competitiveness and transport costs. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Emily Khine, room MC3-347, telephone 202-473-7471, fax 202-522-3518, email address kkhine@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at xclark @worldbank.org, ddollar@worldbank.org, or alejandromi@iadb.org. (37 pages)

2782. Global Capital Flows and Financing Constraints

Ann E. Harrison, Inessa Love, and Margaret S. McMillan
(February 2002)

Firms often cite financing constraints as one of their primary obstacles to investment. Global capital flows, by bringing in scarce capital, may ease the financing constraints of host country firms. But if incoming foreign investors borrow heavily from domestic banks, foreign direct investment may exacerbate financing constraints by crowding host country firms out of domestic capital markets. Combining a unique cross-country firm-level panel with time-series data on restrictions on international transactions and capital flows, Harrison, Love, and McMillan find that different measures of global flows are associated with a reduction in firm-level financing constraints. First, the authors show that one type of capital inflow—foreign direct investment—is associated with a reduction in financing constraints. Second, they test whether restrictions on international transactions affects the financing constraints of firms.

The results suggest that only one type of restriction—those on capital account transactions—negatively affects firms' financing constraints. The authors also show that multinational firms are not financially constrained and do not appear to be sensitive to the level of foreign direct investment. This implies that foreign direct investment eases financing constraints for non-multinational firms. Finally, the authors show that (1) foreign direct investment only eases financing constraints in the non-G7 countries, and (2) other kinds of flows, such as portfolio investment, have no impact on financing constraints.

This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to study access to finance. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Kari Labrie, room MC3-456, telephone 202-473-1001, fax 202-522-1155, email address klabrie@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at harrison@are.berkeley.edu, ilove@worldbank.org, or mmcmilla@tufts.edu. (49 pages)

2783. Ownership, Competition, and Corruption: Bribe Takers versus Bribe Payers

George R. G. Clarke and Lixin Colin Xu
(February 2002)

Over the past few years, many studies have looked at the macroeconomic, cultural, and institutional determinants of corruption. This study complements these cross-country studies by focusing on microeconomic factors that affect bribes paid in a single sector of the economy. Using enterprise-level data on bribes paid to utilities in 21 transition economies in Easter Europe and Central Asia, Clarke and Xu look at how characteristics of the firms paying bribes (such as ownership, profitability, and size) and characteristics of the utilities taking bribes (such as competition and utility capacity) affect the equilibrium level of corruption in the sector. On the side of bribe payers, enterprises that are more profitable, enterprises that have greater overdue payment to utilities, and *de novo* private firms pay higher bribes. On the side of bribe takers, bribes paid to utilities are higher in countries with greater constraints on utility capacity, lower levels of competition in the utility sector, and where utilities are state-owned. Bribes in the utility sector are also correlated with many of the macroeconomic and political factors that previous studies have found to affect the overall level of corruption.

This paper—a product of Regulation and Competition Policy, Development Research Group—is part of a larger effort in the group to understand the economic impact of privatization and competition in network utilities. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room MC3-300, telephone 202-473-7644, fax 202-522-1155, email address psintimaboagye@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at gclarke@worldbank.org or lxu1 @worldbank.org. (33 pages)

2784. Financial and Legal Constraints to Firm Growth: Does Size Matter?

Thorsten Beck, Asli Demirgüç-Kunt, and Vojislav Maksimovic
(February 2002)

Using a unique firm-level survey data base covering 54 countries, Beck, Demirgüç-Kunt, and Maksimovic investigate whether different financial, legal, and corruption issues that firms report as constraints actually affect their growth rates. The results show that the extent to which these factors constrain a firm's growth depends very much on its size and that it is consistently the smallest firms that are most adversely affected by all three constraints. Firm growth is more affected by reported constraints in countries with underdeveloped financial and legal systems and higher corruption. So, policy measures to improve financial and legal development and reduce corruption are well justified in promoting firm growth, particularly the development of the small and medium enterprise sector. But the evidence also shows that the intuitive descriptors of an "efficient" legal system are not correlated with the components of the general legal constraints that predict firm growth. This finding suggests that the mechanism by which the legal systems affects firm performance is not well understood. The authors' findings also provide evidence that the corruption of bank officials constrains firm growth. This "institutional failure" should be taken into account when modeling the monitoring role of financial institutions in overcoming market failures due to informational asymmetries.

This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to understand the link from the financial sector to economic development. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Agnes Yaptenco, room MC3-446, telephone 202-473-8526, fax 202-522-1155, email address ayaptenco@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at tbeck @worldbank.org, ademirguckunt @worldbank.org, or vmaksimovic@rhsmith.umd.edu. (52 pages)

2785. Improving Air Quality in Metropolitan Mexico City: An Economic Valuation

The Mexico Air Quality Management Team
(February 2002)

The annual health benefits of a 10 percent reduction in ozone and PM10 in Mexico City, conservatively estimated, are approximately $760 million (in 1999 U.S. dollars) annually. Reducing PM10 has larger estimated health benefits than reducing ozone, with each microgram per cubic centimeter reduction in PM10 worth about $100 million per year.

Mexico City has for years experienced high levels of ozone and particulate air pollution. In 1995–99 the entire population of the Mexico City metropolitan area was exposed to annual average concentrations of fine particulate pollution (particulates with a diameter of less than 10 micrometers, or PM10) exceeding 50 micrograms per cubic meter, the annual average standard in both Mexico and the United States. Two million people were exposed to annual average PM10 levels of more than 75 micrograms per cubic meter. The daily maximum one-hour ozone standard was exceeded at least 300 days a year.

The Mexico Air Quality Management Team documents population-weighted exposures to ozone and PM10 between 1995 and 1999, project exposures in 2010, and computes the value of four scenarios for 2010:

- A 10 percent reduction in PM10 and ozone.
- A 20 percent reduction in PM10 and ozone.
- Achievement of ambient air quality standards across the metropolitan area.
- A 68 percent reduction in ozone and a 47 percent reduction in PM10 across the metropolitan area.

The authors calculate the health benefits of reducing ozone and PM10 for each scenario using dose-response functions from the peer-reviewed literature. They value cases of morbidity and premature mortality avoided using three approaches:

- Cost of illness and forgone earnings only (low estimate).
- Cost of illness, forgone earnings, and willingness to pay for avoided morbidity (central case estimate).
- Cost of illness, forgone earnings, willingness to pay for avoided morbidity, and willingness to pay for avoided mortality (high estimate).

The results suggest that the benefits of a 10 percent reduction in ozone and PM10 in 2010 are about $760 million (in 1999 U.S. dollars) annually in the central case. The benefits of a 20 percent reduction in ozone and PM10 are about $1.49 billion annually. In each case the benefits of reducing ozone amount to about 15 percent of the total benefits.

By estimating the magnitude of the benefits from air pollution control, the authors provide motivation for examining specific policies that could achieve the air pollution reductions that they value. They also provide unit values for the benefits from reductions in ambient air pollution (for example, per microgram of PM10) that could be used as inputs into a full cost-benefit analysis of air pollution control strategies.

This paper—a product of the Environmentally and Socially Sustainable Development Sector Unit, Latin America and the Caribbean Region—is part of a larger effort in the region to assist the Mexico City Metropolitan Area authorities in formulating the Third Air Quality Management Plan. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Glaura Lage, room I6-130, telephone 202-473-1099, fax 202-676-9373, email address glage@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at mcropper@worldbank.org or wvergara@worldbank.org. (51 pages)

2786. The Composition of Foreign Direct Investment and Protection of Intellectual Property Rights: Evidence from Transition Economies

Beata K. Smarzynska
(February 2002)

While existing literature has examined the impact of intellectual property protection on the volume of foreign direct investment (FDI), little is known about its effect on the composition of FDI inflows. Smarzynska addresses this question empirically, using a unique firm-level data set from Eastern Europe and the former Soviet Union. She finds that weak protection deters foreign investors in technology-intensive sectors that rely heavily on intellectual property rights. The results also indicate that a weak intellectual property regime encourages investors to undertake projects focusing on distribution rather than local production. The latter effect is present in all sectors, not just those relying heavily on intellectual property protection.

This paper—a product of Trade, Development Research Group—is part of a larger effort in the group to examine the effects of intellectual property protection on economic activity. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Flewitt, room MC3-333, telephone 202-473-2724, fax 202-522-1159, email address pflewitt@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at bsmarzynska@worldbank.org. (26 pages)

2787. Do Farmers Choose to Be Inefficient? Evidence from Bicol, Philippines

Donald F. Larson and Frank Plessmann
(February 2002)

Farming households that differ in their ability or willingness to take on risks are likely to make different decisions when allocating resources and effort among income-producing activities, with consequences for productivity. Larson and Plessmann measure voluntary and involuntary departures from efficiency for rice-producing households in Bicol, Philippines. They take advantage of a panel of household observations from 1978, 1983, and 1994. The unusually long time-span of the panel provides ample opportunities for the surveyed households to learn and apply successful available technologies. The authors find evidence that diversification and technology choices do effect efficiency outcomes among farmers, although these effects are not dominant. Accumulated wealth, past decisions to invest in education, favorable market conditions, and propitious weather are also important determinants of efficiency outcomes among Bicol rice farmers.

This paper—a product of Rural Development, Development Research Group—is part of a larger effort in the group to study the relationship between risk and rural household decisions. The study was co-funded by the Bank's Research Support Budget under the research project "Dynamism of Rural Sector Development" (RPO 683-06) and by the Japanese Government. Copies of this paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Pauline Kokila, room MC3-604, telephone 202-473-3716, fax 202-522-1151, email address pkokila@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at dlarson@worldbank.org or office@plessmann.net. (23 pages)

2788. Macroeconomic Adjustment and the Poor: Analytical Issues and Cross-Country Evidence

Pierre-Richard Agénor
(February 2002)

Agénor studies the links between macroeconomic adjustment and poverty. First, he summarizes some of the recent evidence on poverty in the developing world. Second, he reviews the various channels through which macroeconomic policies affect the poor. Third, Agénor emphasizes the role of the labor market. He develops an analytical framework that captures some of the main features of the urban labor market in developing countries and studies the effects of fiscal adjustment on wages, employment, and poverty. Fourth, he presents cross-country regressions linking various macroeconomic and structural variables to poverty. The author finds that output growth and real exchange rate depreciations tend to lower poverty, while illiteracy, income inequality, and macroeconomic volatility tend to increase poverty. In addition, the impact of growth on poverty appears to be asymmetric, and to result from a significant relationship between episodes of increasing poverty and negative growth rates.

This paper—a product of the Economic Policy and Poverty Reduction Division, World Bank Institute—is part of a larger effort in the institute to analyze the impact of adjustment programs on poverty and income distribution. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Gosiengfiao, room J4-282, telephone 202-473-3363, fax 202-676-9810, email address mgosiengfiao @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at pagenor@worldbank.org. (82 pages)

2789. "Learning by Dining:" Informal Networks and Productivity in Mexican Industry

Somik V. Lall and Sudeshna Ghosh
(February 2002)

Lall and Ghosh analyze the determinants of firm productivity in a group of Mexican firms. In particular, they test the contribution of external factors such as trade and knowledge diffusion, the availability of infrastructure, informal knowledge exchange, competitive environment, and business regulatory climate. The authors find that one factor consistently emerges as an important proximate source of productivity—access to informal networks. Interaction in the form of "business lunches" with local buyers and suppliers, competitors, government officials, and other professionals have a significant and positive effect on a firm's productivity. Access to regulators and agents of backward and forward linkages are important in settings where information on business practices and regulations is not publicly disclosed. The results complement predictions of traditional growth theory—in addition to technology and learning being the driving force of firm productivity, proximity to influential individuals who can grant favors or provide information advantage on business and trade practices have significant productivity impacts.

This paper—a product of Infrastructure and Environment, Development Research Group—is part of a larger effort in the group to understand the role of economic geography and urbanization in the development process. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Yasmin D'Souza, room MC2-622, telephone 202-473-1449, fax 202-522-3230, email address ydsouza @worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. Somik Lall may be contacted at slall1@worldbank.org. (26 pages)

2790. Estimating the Poverty Impacts of Trade Liberalization

Jeffrey J. Reimer
(February 2002)

As a new round of World Trade Organization negotiations is being launched with greater emphasis on developing country participation, a body of literature is emerging which quantifies how international trade affects the poor in developing countries. In this survey of the literature, Reimer summarizes and classifies 35 trade and poverty studies into four methodological categories: cross-country regression, partial-equilibrium and cost-of-living analysis, general-equilibrium simulation, and micro-macro synthesis.

These categories include a broad range of methodologies in current use. The continuum of approaches is bounded on one end by econometric analysis of household expenditure data, which is the traditional domain of poverty specialists, and sometimes labeled the "bottom-up" approach. On the other end of the continuum are computable general equilibrium models based on national accounts data, or what might be called the "top-down" approach.

Another feature of several recent trade and poverty studies—and one of the primary conclusions to emerge from the October 2000 "Conference on Poverty and the International Economy" sponsored by Globkom and the World Bank—is the recognition that factor markets are perhaps the most important link between trade and poverty, since households tend to be much more specialized in income than they are in consumption. Meanwhile, survey data on the income sources of developing-country households has become increasingly available. As a result, this survey gives particular emphasis to the means by which studies address factor market links between trade and poverty.

The general conclusion of Reimer's survey is that any analysis of trade and poverty needs to be informed by both the bottom-up and top-down perspectives. Indeed, recent "two-step" micro-macro studies sequentially link these two types of frameworks, such that general equilibrium mechanisms are incorporated along with detailed household survey information. Another methodology in a similar spirit and also increasingly used involves incorporating large numbers of surveyed households into a general-equilibrium simulation model. Although most of these studies have so far been limited to a single region, these approaches can be readily adapted for multi-region modeling so that trade and poverty comparisons can be made across countries within a consistent framework.

This paper—a product of Trade, Development Research Group—is part of a larger effort in the group to understand the impact of trade reform on poverty. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Flewitt, room MC3-333, telephone 202-473-2724, fax 202-522-1159, email address pflewitt@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at reimerj@purdue.edu. (35 pages)

2791. The Static and Dynamic Incidence of Vietnam's Public Safety Net

Dominique van de Walle
(February 2002)

Vietnam's social welfare programs do not adequately protect and promote the poor. Increased spending, with better coverage and targeting, could help poor and vulnerable households.

How does Vietnam's public safety net affect outcomes for the poor? Although social welfare programs in Vietnam are centrally mandated, they are locally implemented according to local norms and local poverty standards and often rely heavily on local financing. Van de Walle examines the coverage, incidence, and horizontal equity of the programs that can be identified in the data from the Vietnam Living Standards Survey. She looks at the role of location in determining whether the poor are assisted nationally. And she explores dynamic incidence between 1993 and 1998 and the degree to which programs performed a safety net function.

The author's analysis shows that coverage and payments to households are low and have had a negligible impact on poverty. In principle, better targeting could improve the impact of current outlays. The analysis also shows that the system was ineffective in protecting households that were vulnerable to shocks. Finally, the results suggest that although there is a greater concentration of poverty-related programs and greater household participation in poorer communes, the system spends more (absolutely and relatively) on the poor in richer communes.

This paper—a product of Public Services, Development Research Group—is part of a larger effort in the group to improve the delivery and effectiveness of social protection programs. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, mail stop MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at dvandewalle @worldbank.org. (47 pages)

2792. Determinants of Life Insurance Consumption across Countries

Thorsten Beck and Ian Webb
(February 2002)

The importance of life insurance companies as part of the financial sector has significantly increased over the past decades, both as provider of important financial services to consumers and as a major investor in the capital market. However, Beck and Webb still observe a large variance in life insurance consumption across countries, which raises the question of its determinants. The authors use a greatly expanded data set on life insurance consumption to examine the determinants of the demand and supply of life insurance products across countries and over time. Using a cross-sectional sample of 63 countries averaged over 1980–96, Beck and Webb find that educational attainment, banking sector development, and inflation are the most robust predictors of life insurance consumption, while income is only a weak predictor. The results on educational attainment and inflation are confirmed in a panel of 23 countries over the period 1960–96. The results strengthen the case for promoting price stability, financial sector reform, and an efficient education system if life insurance and its many benefits are to be fully realized in an economy.

This paper—a product of Finance, Development Research Group—is part of a larger effort in the group to understand the link between financial and economic development. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Agnes Yaptenco, room MC3-446, telephone 202-473-1823, fax 202-522-1155, email address ayaptenco@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at tbeck @worldbank.org or webb@iifdc.org. (44 pages)

2793. Agricultural Markets and Risks: Management of the Latter, Not the Former

Panos Varangis, Donald Larson, and Jock R. Anderson
(February 2002)

Policymakers have abandoned efforts to manage agricultural markets and have turned instead to policies that emphasize risk management. Formal markets for risk are growing. But can policymakers take steps that extend the reach of markets to help households and small firms at risk?

Varangis, Larson, and Anderson review the historical relationship between the work of applied economists and policymakers and the institutions that came to characterize the commodity and risk markets of the 1980s. These institutions were a response to the harmful consequences of commodity market volatility and declining terms of trade. But the chosen policies and instruments relied on market interventions to directly affect prices or the distribution of prices in domestic and international markets. For practical and more fundamental reasons, this approach failed.

The authors next discuss how a growing body of work contributed to a change in thinking that moved policy away from stabilization goals toward policies that emphasized the management of risks. They distinguish between the macroeconomic effects of volatile commodity markets and the consequences for businesses and households. The authors argue that both sets of problems remain important development issues, but that appropriate policy instruments are largely separate. Nonetheless because governments, households, and firms must all respond to a wide range of sources of risk, they emphasize the role for an integrated policy by government.

Increasingly, alternative approaches have come to rely on market-based instruments. Such approaches accept the market view of relative prices as immutable, but address directly the negative consequences of volatility. As traditional risk markets (such as futures and insurance markets) expand and new parametric markets emerge, the practicality of applying market-based instruments to traditional risk and development problems increases. The authors show the change in approaches to risk, and the reliance on old and new market instruments with new and sometimes experimental programs, with special emphasis on programs at the World Bank.

This paper—a product of Rural Development, Development Research Group—is part of a larger effort in the group to analyze new approaches in managing agricultural risks. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Pauline Kokila, room MC3-604, telephone 202-473-3716, fax 202-522-1151, email address pkokila@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at pvarangis @worldbank.org, dlarson@worldbank. org, or janderson@worldbank.org. (25 pages)

2794. Land Policies and Evolving Farm Structures in Transition Countries

Zvi Lerman, Csaba Csaki, and Gershon Feder
(February 2002)

Lerman, Csaki, and Feder review the role of land policies in the evolving farm structure of transition countries in Central and Eastern Europe (CEE) and the Commonwealth of Independent States (CIS). They show how different policies for land property rights, degrees of control of land rental and sale markets, and procedures for restructuring former collective or state farms resulted in significantly different farm structures in CEE countries compared with those in the CIS. In particular, secure land rights, greater emphasis on individualization of land, and more liberal land market policies in CEE generated a farming sector with a relatively large share of family farms and viable corporate farms.

On the other hand, limited tenure security, ineffective individualization of land rights, and restrictive land market policies in most of the CIS produced a farming structure dominated by large and generally nonviable jointly-owned farms that function much like the old collective farms. Family farms are slow to emerge in transition countries with inadequate land policies. The agricultural sector in countries dominated by inefficient farm organizations is characterized by low productivity and misallocation of resources.

This paper—a product of Rural Development, Development Research Group—is part of a larger effort in the group to assess the implications of land policies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Maria Fernandez, room MC3-542, telephone 202-473-3766, fax 202-522-1151, email address mfernandez2@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at lerman@agri.huji.ac.il, ccsaki@worldbank.org, or gfeder@worldbank.org. (176 pages)

2795. Inequalities in Health in Developing Countries: Swimming against the Tide?

Adam Wagstaff
(February 2002)

Inequalities in health have recently started to receive a good deal of attention in the developing world. But how large are they? And how large are the differences across countries?

Recent data from a 42-country study show large but varying inequalities in health across countries. Wagstaff explores the reasons for these intercountry differences and concludes that large inequalities in health are not apparently associated with large inequalities in income or with small shares of publicly financed health spending. But they are associated with higher per capita incomes.

Evidence from trends in health inequalities—in both the developing and the industrial world—supports the notion that health inequalities rise with rising per capita incomes. The association between health inequalities and per capita incomes is probably due in part to technological change going hand-in-hand with economic growth, coupled with a tendency for the better-off to assimilate new technology ahead of the poor.

Since increased health inequalities associated with rising per capita incomes is a bad thing and increased average health levels associated with rising incomes are a good thing, Wagstaff outlines a way of quantifying the tradeoff between health inequalities and health levels. He also suggests that successful anti-inequality policies can be devised, but that their success cannot be established simply by looking at "headline" health inequality figures, since these reflect the effects of differences and changes in other variables, including per capita income.

Wagstaff identifies four approaches that can shed light on the impacts of anti-inequality policies on health inequalities: cross-country comparative studies, country-based before-and-after studies with controls, benefit-incidence analysis, and decomposition analysis. The results of studies based on these four approaches do not give as many clear-cut answers as one might like on how best to swim against the tide of rising per capita incomes and their apparent inequality-increasing effects. But they ought at least to help us build our stock of knowledge on the subject.

This paper—a product of Public Services, Development Research Group, and the Health, Nutrition, and Population Team, Human Development Network—is part of a larger effort in the Bank to investigate the links between poverty and health. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at awagstaff@worldbank.org. (40 pages)

2796. Do Rural Infrastructure Investments Benefit the Poor? Evaluating Linkages: A Global View, A Focus on Vietnam

Jocelyn A. Songco
(February 2002)

What are the linkages between rural infrastructure investments and household welfare? In the past most of the evaluations to assess the effectiveness of a project focused on physical outputs and success of project implementation. In recent years, more attention has been given to the impact of investments, particularly its effect on the poor, both in economic and noneconomic terms. Songco presents findings from a survey of the existing literature on such impacts.

Although evidence exists for improved household welfare from rural infrastructure investment, little evidence was found of studies that provided concrete linkages between specific investments in rural infrastructure and increased welfare of the rural poor. This is due in part to the complexity, and oftentimes the concurrent nature of interventions, that make attributing welfare improvements to a particular project virtually impossible.

The evidence is presented in this three-part paper. Part I gives examples of past and current attempts to assess the impact of rural infrastructure projects and provides suggestions for future evaluations. Part II discusses in detail some observed economic and noneconomic impacts on the poor from different rural infrastructure interventions. Part III presents lessons learned from the literature on how to maximize the impact of rural infrastructure interventions on household welfare. Specific project and country examples from the literature and new data from a recent qualitative study in Vietnam are presented as evidence for and illustration of key ideas and issues.

This paper—a product of the Poverty Reduction and Economic Management Sector Unit, East Asia and Pacific Region—is part of a larger effort in the region to evaluate the welfare impact of investments. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Herawaty Sutrisna, room MC9-242, telephone 202-458-8032, fax 202-522-1556, email address hsutrisna@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at jas494@columbia.edu. (59 pages)

2797. Regional Integration and Development in Small States

Maurice Schiff
(February 2002)

Small states should pursue unilateral and multilateral trade liberalization, and members of the African, Caribbean, and Pacific (ACP) group should expand reciprocal agreements with the European Union (Cotonou Agreement) to the entire OECD. They should also intensify South-South regional cooperation in the area of regional public goods.

Schiff examines the impact of various trade policies for small developing states in the face of changing international trends—including globalization, the proliferation of regional integration agreements, the changing relationship between African, Caribbean, and Pacific (ACP) countries and the European Union, the erosion of ACP preferences in the EU market, the Everything-But-Arms Initiative (a 2001 EU initiative providing 49 developing countries free access to EU markets), and the negotiations on the Free Trade Agreement of the Americas. The author concludes that:

- The participants in South-South regional integration agreements should further reduce their external trade barriers.
- The trade component of the Cotonou Agreement between the ACP countries and the European Union is likely to harm those countries. The ACP countries should liberalize their trade regimes to reduce the size of transfers to the European Union.
- Small states should sign free trade agreements with the rest of the OECD and pursue multilateral liberalization.
- Small states and other developing countries should intensify South-South regional cooperation in the area of regional public goods.
- The EU and other OECD countries should provide country-specific technical assistance for "behind the border" reforms in small states—something specified in the Cotonou Agreement for ACP countries—as well as assistance in implementing their commitments under World Trade Organization agreements.

This paper—a product of Trade, Development Research Group—is part of a larger effort in the group to examine regional integration issues. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Flewitt, room MC3-333, telephone 202-473-2724, fax 202-522-1159, email address pflewitt@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at mschiff@worldbank.org. (28 pages)

2798. Fever and Its Treatment among the More and Less Poor in Sub-Saharan Africa

Deon Filmer
(March 2002)

Filmer empirically explores the relationship between household poverty and the incidence and treatment of fever—as an indicator of malaria—among children in Sub-Saharan Africa. He uses household Demographic and Health Survey data collected in the 1990s from 22 countries in which malaria is prevalent.

The analysis reveals a positive, but weak, association between reported fever and poverty. The geographic association becomes insignificant, however, after controlling for the mother's education. There is some evidence that higher levels of wealth in other households in the cluster in which the household lives are associated with lower levels of reported fever in Eastern and Southern Africa. Poverty and the type of care sought for an episode of fever are significantly associated: wealthier households are substantially more likely to seek care in the modern health sector. In Central and Western Africa those from richer households are more likely to seek care from all types of sources: government hospitals, lower-level public facilities such as health clinics, as well as private sources. In Eastern and Southern Africa the rich are primarily more likely to seek care from private facilities. In both regions there is substantial use of private facilities—use that increases with wealth. Like the incidence of fever, treatment-seeking behavior is strongly associated with the level of wealth in the cluster in which the child lives.

This paper—a product of Public Services, Development Research Group—is part of a larger effort in the group to understand the relationship between poverty and health. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, mail stop MC3-311, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at dfilmer@worldbank.org. (37 pages)

2799. The Impact of the Indonesian Financial Crisis on Children: Data from 100 Villages Survey

Lisa A. Cameron
(March 2002)

School attendance in Indonesia dropped slightly after the onset of the Asian crisis but then rebounded to higher-than-pre-crisis levels. Fewer children are now working, although the older children who are working and are not attending school seem to be working longer hours. Children's health status appears to be relatively stable.

Cameron examines the Asian crisis's impact on children in 100 Indonesian villages, based on data from four rounds of the 100 Villages survey that was used to examine changes in health status, school attendance rates, and children's participation in the labor force.

She finds little evidence that the crisis had a dramatically negative impact on children. School attendance dropped slightly after the onset of the crisis but then rebounded to higher-than-pre-crisis levels. Fewer children are now working, although the older children who are working and are not attending school seem to be working longer hours.

Children's health status appears to be relatively stable, although comparisons of indicators of children's health status over time are complicated by changes in the questionnaire used.

Cameron also examines ways households reported they were coping with the crisis.

This paper—a product of the Poverty Team, Development Research Group—is part of a larger effort in the group to study the welfare impact of the East Asian crisis. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Sader, mail stop MC3-306, telephone 202-473-3902, fax 202-522-1153, email address psader@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at lcameron@unimelb.edu.au. (30 pages)

2800. Did Social Safety Net Scholarships Reduce Drop-Out Rates during the Indonesian Economic Crisis?

Lisa A. Cameron
(March 2002)

Preliminary evidence favors focusing safety net scholarships—designed to reduce dropout rates during an economic crisis—on lower secondary schools, continuing to target children (especially older students) from large families, scaling back scholarships to private schools at the lower secondary level, or targeting the households hurt most by the crisis.

Cameron uses regression and matching techniques to evaluate Indonesia's Social Safety Net Scholarships Program, which was developed to keep large numbers of children from dropping out of school as a result of the Asian crisis. It was expected that many families would find it difficult to keep their children in school and that dropout rates would be high, as they were during a recession in the 1980s. But dropouts did not increase markedly and enrollment rates remained relatively steady. Cameron examines the role the scholarship program played in producing this result.

She found the scholarships to have been effective in reducing dropouts in the lower secondary school (where students are more susceptible to dropping out) by about 3 percentage points. They had no discernible impact in primary and upper secondary schools.

Cameron also examines how well the program adhered to its documented targeting design and how effective that design was in reaching the poor. Committees that allocated the scholarships followed the criteria diligently, but a significant percentage of scholarships did go to students from households with high reported per capita expenditures, if household expenditure data are reliable.

It is unclear how targeting can be improved, giving the scarcity of accurate local household data in most countries. Using local monitoring could help but then monitoring for accountability would be more difficult. Preliminary evidence favors focusing safety net scholarships—designed to reduce dropout rates during an economic crisis—on lower secondary schools, continuing to target children (especially older students) from large families, scaling back scholarships to private schools at the lower secondary level, or targeting the households hurt most by the crisis.

This paper—a product of the Poverty Team, Development Research Group—is part of a larger effort in the group to study the welfare impact of the East Asian crisis. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Sader, mail stop MC3-306, telephone 202-473-3902, fax 202-522-1153, email address psader@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at lcameron@unimelb.edu.au. (46 pages)

2801. Policies to Promote Saving for Retirement: A Synthetic Overview

Dimitri Vittas
(March 2002)

Vittas argues that public and private pillars are essential for a well-functioning pension system. Public pillars, funded or unfunded, offer basic benefits that are independent of the performance of financial markets. Since financial markets suffer from prolonged, persistent, and large deviations from long-term trends, they cannot be relied on as the sole provider of pension benefits. Funded pillars provide benefits that are based on long-term capital accumulation and financial market performance. But they need to be privately managed to minimize dependence on public sector institutions and avoid government dominance of the economy and financial markets.

The author focuses mainly on the promotion, structure, and regulation of funded pillars. He discusses the case for using compulsion and tax incentives, for exempting some categories of workers such as the very young (under 25), the very old (over the normal retirement age), the very poor (those earning less than 40 percent of the average wage), and the self-employed, and for offering a credit transfer to be added to individual capitalization accounts to encourage participation by lower-income groups.

A robust regulatory framework with a panoply of prudential and protective rules covering "fit and proper" tests, asset diversification and market valuation rules, legal segregation of assets and safe external custody, independent financial audits and actuarial reviews, and adequate disclosure and transparency would be essential. An effective, proactive, well-funded, and properly staffed supervision agency would be necessary.

Tight investment rules could initially be justified for countries with weak capital markets and limited tradition of private pension provision. But in the long run, adoption of the "prudent expert" approach with publication of "statements of investment policy objectives" (SIPOs) would be preferable and more efficient. Various guarantees covering aspects such as minimum pension levels and relative investment returns need to be provided to protect workers from aberrant asset managers and insolvency of annuity providers, but care must be taken to address effectively the risk of moral hazard.

Vittas also argues for greater individual choice, including the creation of a dual regulatory structure. One part would involve heavy regulation with constrained choice of investment funds, limits on operating fees and on account switching, and strong government safeguards and guarantees. This would cater to those workers with low risk tolerance. The other part would be more liberal but based on strong conduct rules. It would offer greater choice of investment funds, allowing multiple accounts and liberal account switching, imposing no limits on operating fees, and providing no or fewer state guarantees. This would cater to workers seeking a higher return and who are willing to tolerate a higher level of risk.

This paper—a product of the Financial Sector Development Department—is part of a larger effort in the department to study the promotion of pension funds. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Priscilla Infante, room MC9-904, telephone 202-473-7642, fax 202-522-7105, email address pinfante@worldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The author may be contacted at dvittas@worldbank.org. (35 pages)

2802. Telecommunication Reforms, Access Regulation, and Internet Adoption in Latin America

Antonio Estache, Marco Manacorda, and Tommaso M. Valletti
(March 2002)

Unresolved regulatory issues, particularly those relating to interconnection agreements, hamper progress in Internet adoption in Latin America.

Estache, Manacorda, and Valletti review the stylized facts on regulatory reform in telecommunications and its effects on telecommunications development and Internet penetration in Latin America. Relying on data from the International Telecommunication Union, the Information for Development Program (InfoDev), and the World Bank for 1990–99, the authors then test econometrically the determinants of the differences in Internet penetration rates across Latin America.

The results show that effective implementation of the reform agenda in telecommunications regulation could accelerate adoption of the Internet in Latin America—even though it is only part of the solution (income levels, income distribution, and access to primary infrastructure are the main determinants of growth in Internet connections and use).

Regulation will work by cutting costs. Cost cutting will require that regulators in the region take a much closer look at the design of interconnection rules and at the tradeoffs that emerge from the complex issues involved. It will also require a commitment to developing analytical instruments, such as cost models, to sort out many of the problems. Appropriate cost models will generate benchmarks that are much more consistent with the local issues and with the local cost of capital than international benchmarks will ever be for countries in unstable macroeconomic situations. Cost cutting will require an equally strong commitment to imposing regulatory accounting systems that reduce the information asymmetries that incumbents use to reduce the risks of entry.

All these changes will ultimately require a stronger commitment by competition agencies, since in many countries a failure to negotiate interconnection agreements will raise competition issues just as often as it will raise regulatory questions.

This paper—a product of the Governance, Regulation, and Finance Division, World Bank Institute—is part of a larger effort in the institute to increase understanding of infrastructure regulation. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Gabriela Chenet-Smith, room J3-304, telephone 202-473-6370, fax 202-676-9874, email address gchenet@wgldbank.org. Policy Research Working Papers are also posted on the Web at http://econ.worldbank.org. The authors may be contacted at aestache@worldbank.org, m.manacorda@lse.ac.uk, or t.valletti@ic.ac.uk. (42 pages)